A.D. 1854. . . . . N° 604.

SPECIFICATION

OF

JAMES WRIGHT.

FURNACES.

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1854.

A.D. 1854 . . . . N° 604.

Furnaces.

(*This Invention received Provisional Protection, but notice to proceed with the application for Letters Patent was not given within the time prescribed by the Act.*)

PROVISIONAL SPECIFICATION left by James Wright at the Office of the Commissioners of Patents, with his Petition, on the 13th March 1854.

I, James Wright, of 16, Park Street, Kennington, in the County of Surrey, Oven Builder, do hereby declare the nature of the said Invention for "Improvements in the Construction of Furnaces for the Purpose of Consuming more Effectually than heretofore the Smoke contained therein" to be as follows:—

This Invention consists in the use and employment of two sets of fire bars arranged and disposed in the furnace at different heights, and in forming the back part of the ash pit inclined or sloping upwards towards the bridge of the furnace, near which part the furnace bars are placed higher than those at the mouth thereof, for the purpose of bringing the surface of the fire when placed thereon nearer to the crown of the furnace, and by thus diminishing the space through which the smoke and gases pass from the incandescent fuel which is upon the lower set of bars at the mouth of the furnace, and as the air which enters the ash pit to support combustion of the fuel impinges against the aforesaid inclined part, the draught being greater at this part of the furnace than at the other part, the heat is therefore more intense, and combustion consequently more perfect. And I would here remark that an important feature in this Invention consists in the use and employment of a hollow lump of metal, the bottom of which is set in the brickwork flush with the crown of the furnace, such said lump being about half the length of those fire bars, over which it is placed with its end flush with the ends of said bars, and I employ such said lump as a transmittor of heat; that is to say, the heat which radiates from the fire which is upon the fire bars beneath will have the effect of making said lump red hot, or even a white heat if allowed; but as this would cause fusion of the metal I prevent it from attaining so high a temperature by allowing a current of cold air to pass through such said hollow lump; thus it will be seen that by maintaining a very high temperature at this part of the furnace, more perfect combustion is insured, and the smoke and combustible gases as they pass such part are thereby more effectually consumed before they enter the chimney by reason of the upper part or crown of the furnace being of the same temperature as the fire which is upon the bars, whereas in furnaces as heretofore constructed, and more especially the furnaces of steam boilers, the metal of which the boiler is made not being capable of attaining even a red heat (so long as there is water therein), inflammability of the smoke and gaseous and other vapours cannot therefore possibly take place, and the smoke therefore passes off unconsumed or only partially so; and this Invention applies also to the furnaces used by bakers, and to every description of furnace in which the smoke is required to be consumed.

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Printers to the Queen's most Excellent Majesty. 1854.